

**REMARKS/ARGUMENTS**

This is in response to the Examiner's communication dated June 15, 2006.

**I. Introduction**

Claims 1–19 are pending in the above application.

Claims 1–5, 7, 10–13, 15–16 and 19 stand rejected under 35 U.S.C. §102(b).

Claims 6, 8–9, 14 and 17–18 stand rejected under 35 U.S.C. §103(a).

**II. Amendments**

The applicant has amended claims 1 and 15, canceled claims 4 and 6, without prejudice or disclaimer, and added new claims 20–22 to more clearly claim the invention in view of the Examiner's objections. Applicant has also made minor voluntary amendments to dependant claims 5 and 7 to be consistent with the amended claims presented herewith.

**III. Rejection Under 35 U.S.C. §102(b)**

Claims 1–5, 7, 10–13, 15–16 and 19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Thomson et al. (5,847,386). Applicant respectfully traverses this rejection. Anticipation under 35 U.S.C. §102 requires that each and every element of the claim be disclosed in a prior art reference as arranged in the claim. See *C. R. Bard, Inc. v. M3 Sys., Inc.*, 157 F. 3d 1340, 1349, 48 USPQ 2d (Fed. Cir. 1998); and *Connell v. Sear, Roebuck & Co.*, 220 USPQ 193, 198 (Fed. Cir. 1983).

In the present invention, ions become unstable at different locations along the length of the rod depending on their mass. Therefore, ions can be mass selectively ejected at different locations along the rod. A detector placed along the rod detects the mass of

the ions from their ejected locations. The location where the ion is ejected along the rod indicates its mass value. Thus, ions can be detected along the length of the rod simultaneously in space.

Applicant is intimately aware of the Thomson et al. reference, and indeed, one of the applicants in the present application was an inventor of the Thomson et al. reference. In Thomson et al., ions are ejected as a group and detected into a time-of-flight (TOF) instrument that detects the ions in time. Light ions are first in time to be detected while the heavier, slower ions are detected later.

Thus, Thomson et al. does not disclose mass selectively ejecting the ions and detecting them along the rod as in the present invention and as now claimed. In Thomson et al., all the ions are ejected as a group and detected by a TOF instrument.

For anticipation, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Moreover, the elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Thomson et al. does not teach, as now claimed in independent claims 1 and 15, a mass analyzer and method comprising a set of elongated rods, having a first end and a second end, said set of elongated rods positioned along an axis, defining an inscribed circle between the rods, said inscribed circle having a radius  $r_0$ , wherein the radius at the first end and at the second end is different, means for applying a RF voltage to said elongated rods, and at least one rod including at least one opening through which at least some of said ions are ejected along said rod, the mass of an ion is determined by the location where the ion is ejected along said at least one rod. Accordingly Thomson et al. does not anticipate the invention as now claimed.

The dependent claims depend from these claims and therefore incorporate the limitations recited above with respect to the independent claims. Accordingly, applicant submits that the dependent claims are not anticipated by the Thomson et al. reference.

**IV. Rejection Under 35 U.S.C. §103(a)**

Claims 6, 8–9, 14 and 17–18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Thomson et al. Applicant respectfully traverses this rejection.

As mentioned, in the present invention, ions become unstable at different locations along the length of the rod depending on their mass. Therefore, ions can be mass selectively ejected at different locations along the rod. A detector placed along the rod detects the mass of the ions from their ejected locations. The location where the ion is ejected along the rod indicates its mass value. Thus, ions can be detected along the length of the rod simultaneously in space.

In Thomson et al. ions are ejected as a group and detected into a time-of-flight (TOF) instrument that detects the ions in time; light ions will be first in time to be detected while heavier ions will be slower and therefore will be detected later. Thus, Thomson et al. does not teach mass selectively ejecting the ions and detecting them along the rod as in the present invention. In Thomson et al., all the ions are ejected as a group and detected by a TOF instrument.

Furthermore, the purpose of the invention of Thomson et al. is to speed the passage of ions through the rods with the use of an axial field. This is to be contrasted with the present invention that mass selectively ejects ions, detects them, and determines their mass from their ejection locations along the rod. The present invention teaches away from the use of axial fields as stated in paragraph 39, line 4: "Such a significant taper to the rod set will introduce axial fields and distortions to the ideal two-dimensional

quadrupolar field, which may significantly limit the achievable mass resolution and transmission."

Since Thomson et al. is not concerned with the same proximate problem as the invention there can be no *prima facie* case of obviousness of modifying Thomson et al. as suggested by the Examiner to provide the invention. In this regard see *In re Pye*, 148 USPQ 426, 429 (CCPA 1966) wherein the court held:

"While, as an abstract proposition, it might be possible to select certain statements from Fikentscher a mechanically combined and with Touey to arrive at appellants' claimed combination, we find absolutely no basis for making such a combination. Neither reference is directed to the problem solved by appellants' invention, namely developing a cleaning composition for the skin having improved lubricity characteristics. In our view only appellants' specification suggests any reason for combining the teachings of the prior art but use of such suggestion is, of course, improper under the mandate of 35 U.S.C. 103. *In re Schaffer*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326." (emphasis added)."

Applicant submits that there is no motivation to modify Thomson et al. to provide the invention. Thomson et al. nowhere recognizes the advantages of the present invention. Without a suggestion of these advantages Thomson et al. cannot be obviously modified. See *In re Gordon*, 221 USPQ 1125, 1127 (Federal Circuit 1984):

"We are persuaded that the board erred in its conclusion of *prima facie* obviousness...The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification."

In applicants submission there is not even the most remote suggestion in any way, shape or form of modifying the Thomson et al. method or apparatus for the purposes of the present invention as described and now claimed.

Applicant submits that this case is in condition for allowance. However, should the Examiner have any concerns with the claims as amended, applicant invites the Examiner to call the undersigned at (416) 957-1697 to discuss the case and avoid the expense and time of issuing a further communication.

Respectfully submitted,

BERESKIN & PARR

By

  
Stephen M. Beney  
Reg. No. 41,663  
Tel: (416) 957-1697